

IN THE CLAIMS

1. (Currently Amended) A device comprising:

a Digital Signal Processor (DSP) module to receive an analog telephone signal to convert the analog telephone signal to a digital signal and further to packetize the digital telephone signal for transmission to a remotely-located device, the device and the remotely-located device to negotiate a codec by simultaneously sending to each other one or more types of codecs that each supports and to selecting-select a mutually supported codec with a predetermined protocol and during communications between the remotely-located device and the DSP module, the DSP module ~~for to renegotiating-renegotiate~~ the use of a second type of codec and switching-switch to using the second codec upon detection of signal degradation,

wherein, the type of codec being utilized is may be repeatedly, mutually, renegotiated to dynamically change compression techniques and switching between the codecs is performed during a call.

2. (Previously Presented) A device as recited in claim 1 wherein switching between the codecs is initiated by a user of one of the telephone devices.

3. (Previously Presented) A device as recited in claim 2 wherein a predetermined code is assigned to correspond to each codec wherein the user specifies the type of codec to be switched to by entering the predetermined code corresponding to a desired codec.

4. (Previously Presented) A device as recited in claim 3 wherein the predetermined code is programmably-alterable.

5. (Currently Amended) A device as recited in claim 1 further comprising the device to switch ~~wherein upon detecting lower bandwidth available on a packet-switching network for the device for switching~~ from a codec resulting in the use of larger packet sizes to a codec resulting in smaller packet sizes in response to detecting a lower available bandwidth on a packet switching network.

6. (Previously Presented) A device as recited in claim 5 wherein the device for automatically detecting the lower bandwidth.

7. (Previously Presented) A device as recited in claim 1 wherein upon detecting higher bandwidth available on packet switching network, the device for switching from a codec resulting in the use of smaller packet sizes to a codec resulting in higher packet sizes.

8. (Previously Presented) A device as recited in claim 5 wherein the device for automatically detecting the higher bandwidth.

9. (Previously Presented) A device as recited in claim 1 wherein the remotely-located device detects the degradation in the quality of the voice information.

10. (Previously Presented) A device as recited in claim 1 wherein the degradation in the quality of the voice information is due to loss of one or more packets.

11. (Previously Presented) A device as recited in claim 10 wherein a threshold defines the number of lost packets that are tolerated triggering a decision to switch to the second type of codec.

12. (Previously Presented) A device as recited in claim 11 wherein a plurality of packets form a message and each packet includes a sequence number indicative of the position of the packet with respect to other packets in the same message, the sequence numbers of the same message being in sequential order wherein a loss of packets is detected when one or more sequence numbers are missing from the received packets of the same message.

13. (Previously Presented) A device as recited in claim 1 wherein the degradation in the quality of the voice information is due to an intolerable delay associated with the time for a packet to travel between the device and the remotely located device.

14. (Currently Amended) A device comprising:

a digital signal processor (DSP) module for telephone conversation through a packet switching network, the DSP module to negotiate a codec by simultaneously sending to another DSP module one or more types of codecs that each supports and selecting a mutually supported codec with a predetermined protocol, the DSP module further responsive to analog

fax signals from a first fax machine and to convert the analog fax signals to digital and to packetize the digital fax signals for transmission, through the packet switching network, to the second fax machine, ~~the DSP module to negotiate a codec by simultaneously sending to another DSP module one or more types of codecs that each supports and selecting a mutually supported codec with a predetermined protocol, the DSP module to switch between codecs based on statistics from the DSP module,~~

wherein the fax transmission may cause a temporary interruption to the telephone conversation thereby avoiding the need for telephone connection to be disconnected prior to the fax transmission and wherein frequency adjustments are made to compensate for the fax transmission and the telephone signal.

15. (Previously Presented) A device as recited in claim 14 wherein a fax overlay is transferred between the device and the remotely-located prior to transmission of fax information therebetween.

16. (Previously Presented) A device as recited in claim 14 wherein the device is further operative to detect a fax tone prior to transmission of the fax information and upon completion of the fax transmission the device is operative to resume the telephone conversation.

17. (Previously Presented) A method comprising:
receiving an analog telephone signal through a telephone connection from a first telephone device;
converting the analog telephone signal to a digital telephone signal;
separating information carried on the digital telephone signal into packets of information;

initially, mutually, negotiating a first type of codec for communication with a second telephone device, by simultaneously sending to each other one or more types of codecs that each supports and each deciding to use a mutually supported codec through the use of a predetermined protocol;

using a first type of codec for transferring the packets of information between the two telephone devices through a packet switching network;

during communication between the telephone devices, renegotiating the use of a second type of codec;

switching to using the second type of codec upon detection of degradation in the quality of the voice information during the course of the telephone connection; and during communication between the telephone devices, upon further detection of signal degradation, repeatedly renegotiating to dynamically change compression.

18. (Previously Presented): A device as recited in claim 1 wherein the codec negotiation is performed pursuant to the H.245 protocol.

19. (Previously Presented): A device as recited in claim 1 wherein the first type of codec utilizes a compression/decompression algorithm defined by any one of the standards: G.711, G726, G729 or G723.1 and the second type of codec utilizes a compression/decompression algorithm defined by any one of the standards: G.711, G726, G729 or G723.1.

20. (Previously Presented): A device as recited in claim 14 wherein the connections are established pursuant to the M.225 protocol.